of a surface of the substrate is colored with a fluorescent coating in which the fluorescent coating fluoresces or emits light in response to exposure to a light source. Claims 10 and 21 relate to an imaging device including such a document imaging background member therein.

Applicants respectfully submit that the teachings of Seachman and Shibahara would not have led one of ordinary skill in the art to the presently claimed subject matter.

Seachman describes a platen cover for a digital document scanner in which the platen cover includes a substrate having a dark color surface with a liquid crystal device thereover. See Figure 1. As explained at column 3, lines 16-43, the liquid crystal device 3 is able to switch between an on and an off state so as to provide either a lower diffuse reflectance mode (i.e., a black appearance) or a high diffuse reflectance mode (i.e., a white appearance). In operating a scanner, a dark background is first made to appear so that the scanner may locate the document upon the surface of the scanner. Thereafter, the liquid crystal device is switched so that a white color appears during actual scanning (imaging) of the document. In this way, the document's edges can be readily located when a dark background is present and then scanning can be conducted with a white background so that holes and dark borders may be eliminated in the scanned document.

Shibahara describes a method and apparatus for recognizing the location of regions containing images. For this purpose, Shibahara describes the use of a platen cover having a color different from colors ordinarily used in images to be recognized and located. In describing prior art methods for detecting a region corresponding to images in the document, Shibahara references JP 11-24185 (hereinafter JP 185) in paragraph [0013], and indicates it to describe a platen cover having a surface coated with a transparent fluorescent coating material that produces an infrared ("IR") fluorescence upon exposure to light. As further explained in the English-language abstract and machine translation of JP 185 (attached hereto), the fluorescent coating material is coated upon a white background and, when exposed to light of

a first wavelength, emits IR rays of a second wavelength that can be detected by an IR ray detector (thereby indicating no image at such location). In this manner, IR rays are used in detecting the size and location of a document on the surface of the scanning device.

In the Final Rejection, the Patent Office theorizes that it would have been obvious for one of ordinary skill in the art to have provided the platen cover of Seachman with a fluorescent coating as described in Shibahara (i.e., as described in JP 185 referenced in paragraph [0013] of Shibahara) "in order to achieve higher light reflectance and to improve printing quality." Applicants respectfully submit that this alleged motivation for combining the references is incorrect and is not based upon the teachings of the references themselves.

First, Shibahara and JP 185 do not teach or suggest that the IR ray emitting fluorescent coating material used therein achieves higher light reflectance and/or improves printing quality. These references merely teach that the fluorescent coating emits an IR ray of a different wavelength from the wavelength of the irradiating light such that the size and location of a document on the imaging device surface may be determined. That is, a document is not present at locations where an IR detector receives the emitted IR rays, and is located where such rays are not detected. Thus, Shibahara and JP 185 teach the use of a fluorescent coating that emits IR rays for the purpose of document location and neither teaches nor suggests that use of a fluorescent coating achieves higher light reflectance and/or improves printing quality at all. The alleged motivation to combine the references provided by the Patent Office is thus incorrect and unsupported by the references.

Further, one of ordinary skill in the art would not have been led to combine the teachings of Seachman and Shibahara for document location purposes. Seachman describes that during a document location phase, the platen cover should be made to have a black appearance in order to permit location of the document on the imaging device surface through the use of a color different from the typical color of documents placed on such surface. For a

similar document/imaging location purpose, Shibahara also describes the use of platen covers having a color different from the color of documents to be imaged. In describing the use of platen covers having contrasting colors, Shibahara specifically teaches away from the use of a platen cover having a fluorescent coating thereon as in JP 185 because a device employing such a platen cover requires a separate IR detector that can detect the IR rays emitted by the fluorescent coating. Thus, Seachman and Shibahara both describe the preferred use of a platen cover having a contrasting color from documents placed thereon in order for the documents to be located on the surface, and Shibahara teaches that use of a platen cover having a fluorescent coating that emits IR rays is expensive and impractical for use in document location on the surface of the device. As such, one of ordinary skill in the art would not have looked to have used a fluorescent coating on the platen cover in Seachman based upon the teachings of Shibahara.

Still further, adding a fluorescent coating as described in Shibahara and JP 185 to the surface of the platen cover described in Seachman would have been recognized to be completely unnecessary by one of ordinary skill in the art. Seachman already describes a device switchable between a black appearance and a white appearance wherein the black appearance permits ready location of a document on the device surface. As such, adding a fluorescent coating such as described in Shibahara and JP 185 for the same purpose of document location would have been recognized to be duplicative and unnecessary. One of ordinary skill in the art thus would not have added the fluorescent coating described in Shibahara and JP 185 to the surface of the Seachman platen cover for this additional reason.

For completeness, Applicants note that the fluorescent coating described in Shibahara and JP 185 is different from the fluorescent coating of the presently claimed subject matter, and Shibahara/JP 185 fail to teach or suggest the document imaging background member of

claim 1 or the imaging device of claims 10 or 21 employing such document imaging background member.

First, Shibahara/JP 185 describe that the platen cover should be a white sheet having a transparent fluorescent paint thereon. Claim 1, on the other hand, specifically requires a substrate having a dark color.

Second, as described in the present specification, the fluorescent coating must fluoresce or emit light in response to exposure to a light source in order to provide a white appearance. In this way, holes and dark borders in a document that might otherwise print in an unappealing black color may be eliminated from the scanned and printed image. The fluorescent coating material described in Shibahara and JP 185 is described to merely emit IR rays in order to enable location of a document upon the surface of the device. Nowhere do these references teach or suggest that the fluorescent coating may be used so as to have a white appearance when located over a dark color background substrate as in the document imaging background member of the present application. The fluorescent coating in Shibahara/JP 185 is located upon a white platen cover, and is merely indicated to emit an IR ray in response to light exposure, which IR ray emission enables location of the document on the surface of the device. Shibahara and JP 185 thus describe a different fluorescent coating such that even if one of ordinary skill in the art were to have combined Shibahara/JP 185 with the teachings of Seachman, the presently claimed subject matter still would not have been achieved.

For all of the foregoing reasons, Applicants respectfully submit that Seachman and Shibahara, alone or in combination, would not have led one of ordinary skill in the art to the presently claimed subject matter. Reconsideration and withdrawal of this rejection are respectfully requested.

B. Rejections in View of Additional References

Claims 3 and 13 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Seachman in view of Shibahara, and further in view of U.S. Patent No. 4,916,483 ("Thompson").

Claims 4 and 14 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Seachman in view of Shibahara and Thompson, and further in view of U.S. Patent No. 4,157,412 ("Deneau").

Claims 5-7 and 15-17 were rejected under 35 U.S.C. §103(a) as allegedly being unapatentable over Seachman in view of Shibahara, and further in view of U.S. Patent No. 6,840,647 ("Hayashi").

Claims 9 and 19 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Seachman in view of Shibahara, and further in view of U.S. Patent No. 5,017,963 ("Tuhro").

Each of the foregoing rejections of the aforementioned dependent claims with reference to the further teachings of Thompson, Deneau, Hayashi and/or Tuhro are respectfully traversed. None of Thompson, Deneau, Hayashi or Tuhro remedy any of the deficiencies of Seachman and Shibahara discussed extensively above. Specifically, none of Thompson, Deneau, Hayashi or Tuhro provide any motivation that would have led one of ordinary skill in the art to have combined the teachings of Seachman and Shibahara as alleged by the Patent Office, and further none of these references teach or suggest the document imaging background member of claim 1 or the imaging devices of claims 10 and 21 utilizing the document imaging background member. Accordingly it is unnecessary to discuss herein the teachings of these references that the Patent Office alleges satisfies the recitations in the cited dependent claims.

For the foregoing reasons, reconsideration and withdrawal of each of the aforementioned rejections are respectfully requested.

II. CONCLUSION

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 3-10 and 13-23 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Leana Levin

James A. Oliff
Registration No. 27,075

Leana Levin
Registration No. 51,939

Christopher W. Brown
Registration No. 38,025

JAO:CWB:LL/tlp

Date: December 6, 2005

Enclosure:
English-language Abstract and machine translation
Of JP 11-24185

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-024185

(43)Date of publication of application : 29.01.1999

(51)Int.Cl. G03B 27/62
G01B 11/02
G01V 8/10
G01V 8/12

(21)Application number : 09-187663

(22)Date of filing : 27.06.1997

(71)Applicant : RICOH CO LTD

(72)Inventor : TAKAHASHI TSUNEHIDE

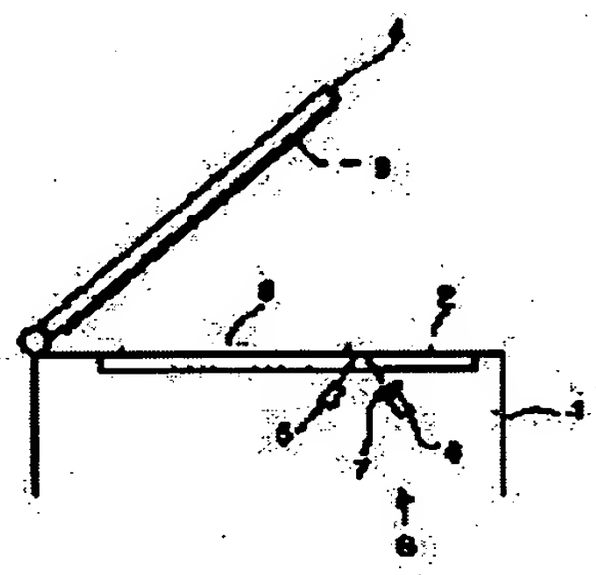
(54) ORIGINAL SIZE DETECTING DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an inexpensive original size detecting device, with a reliable and simple constitution, capable of distinguishing an original pressing surface from a white original, even if this original pressing surface is white.

SOLUTION: A structural material 9 having a white sheet stuck to a surface is attached to the surface coming into contact with a contact glass 2 of the original cover 4 and the white sheet is coated with transparent fluorescent paint fully or according to the size of an original. When the transparent fluorescent paint is irradiated with specific-wavelength infrared rays, the transparent fluorescent paint emits second-wavelength (a different wavelength) infrared rays. If an original 3 is not present,

upon closing the original cover 4 and irradiating it with first-wavelength infrared rays from a light source 5, the transparent fluorescent paint of the white sheet is irradiated with the first-wavelength infrared rays, to emit the second-wavelength infrared rays. If the original 3 is present, the first-wavelength infrared rays are reflected by the original surface without reaching the transparent fluorescent paint, that is, reflected in the same wavelength state. When the filter 7 of a detector 8 transmits only the second-wavelength infrared rays, the presence of the original can be detected by a place irradiated from the light source 5.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

JP 11-24185

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] The clear glass which carries a manuscript in the manuscript reader which can use the manuscript size of varieties, The pressure plate which applied the transparence fluorescent paint which emits light in the light of the 2nd wavelength to the white side which presses down a manuscript, A means to irradiate the light of the 1st wavelength allotted to the side other than the above-mentioned clear glass at the above-mentioned pressure plate side, Manuscript size detection equipment characterized by having a means to detect the reflected light of the light of the 2nd wavelength of the above, a means to detect the existence of the manuscript on the above-mentioned clear glass in the amount of the reflected light of the light of the 2nd wavelength of the above, and a means to detect manuscript size with the output of this detection means.
[Claim 2] The clear glass which carries a manuscript in the manuscript reader which can use the manuscript size of varieties, The pressure plate which created the bar code display corresponding to the size of the above-mentioned manuscript with the transparence fluorescent paint which emits light in the light of the 2nd wavelength to the nearest to an outside of the fixed form manuscript size of a white side which presses down a manuscript, The means which carries out the scan exposure of the light of the 1st wavelength allotted to the side other than the above-mentioned clear glass at the above-mentioned pressure plate side, Manuscript size detection equipment characterized by having a means to detect the reflected light of the light of the 2nd wavelength of the above, a means to read the above-mentioned bar code display in the reflected light of the light of the 2nd wavelength of the above, and a means to detect manuscript size with the output of the reading means of this bar code display.
[Claim 3] The clear glass which carries a manuscript in the manuscript reader which can use the manuscript size of varieties, The pressure plate which drew the bar-like display on the white side which presses down a manuscript at regularity or the specific spacing with the transparence fluorescent paint which emits light in the light of the 2nd wavelength, The means which carries out the scan exposure of the light of the 1st wavelength allotted to the side other than the above-mentioned clear glass at the above-mentioned pressure plate side, Manuscript size detection equipment characterized by having a means to detect the above-mentioned manuscript size and a location from the number of bar-like displays after reading the above-mentioned bar-like display from a means to detect the reflected light of the light of the 2nd wavelength of the above, and a start location until the above-mentioned bar-like display is lost.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the manuscript size detection equipment in the manuscript reader which can use various manuscript sizes.
[0002]
[Description of the Prior Art] In manuscript size detection in the manuscript reader which can use various manuscript sizes for example, like an indication to the approach and JP,58-31552,U which prepare a transparent electrode in a manuscript base, constitute an original cover from conductive rubber like the indication to JP,55-93161,A, and detect manuscript size by switch-on Like [change / prepare a conductor in one side of a manuscript base and a pressure plate, prepare a resistor in another side, and / with manuscript size / resistance] the indication to the approach and JP,60-140949,U which detect manuscript size Like an indication to the approach and publication of unexamined utility model application Showa 60-140948 which detect manuscript size by the differential pressure produced by the existence of a manuscript, or JP,60-260943,A Like the indication to the approach change of the electrostatic capacity produced by the existence of a manuscript detects manuscript size, and JP,61-285442,A, high pressure is given between a manuscript base and a pressure plate, and the method of detecting manuscript size by change of the potential by the existence of a manuscript etc. is proposed variously until now.
[0003]
[Problem(s) to be Solved by the Invention] By the way, in the thing of a method which irradiates light from a lower part and detects the existence of a manuscript by the existence of the reflected light, there was a problem that distinction of the manuscript of the same white and a pressure plate could not be performed, using the pressure plate which made the original-cover section white the approach of these former, and among equipment. Then, the method which prepares an electrode in a pressure plate and glass and detects the existence of a manuscript in order to distinguish this, The method which prepares an electrode and a resistor similarly and detects the location of a manuscript, the method using change of the pressure between the pressure plate by the thickness of a manuscript, and glass, The method which distinguishes the white of a manuscript and the white of a pressure plate is learned from the situation of the reflected light before and behind closing motion of the method using the electrostatic capacity between glass and a pressure plate changing with the existence of a manuscript, the method using change of the potential produced in a pressure plate, the method that colors a pressure plate and is distinguished from the white of a manuscript, and a pressure plate.
[0004] However, preparing an electrode in the clear glass which carries a manuscript produces distortion optically, although it is small, and it needs to prepare an electrode or a resistor also in a pressure plate, and has the problem to say that equipment structure becomes intricately and expensive. Moreover, change of a pressure, change of electrostatic capacity, and change of potential have a small change according to the existence of a manuscript with a thin manuscript etc., and in order to acquire a desired detection precision, the problem that structure is complicated and becomes expensive has them. Furthermore, there is a problem that a closing motion detection switch is required in order for there to be a problem that the image which became dirty outside the manuscript will be read and to detect closing motion of a pressure plate,

if a pressure plate is colored, and a configuration becomes intricately and expensive.
[0005] Moreover, although the equipment which forms two or more electrodes and sensors and detects manuscript size with the ON/OFF pattern is also known for the former, with such equipment, there is a problem of an electrode or a sensor being complicated, and it being expensive, and wiring from an electrode or a sensor to a control section being required, and becoming still more complicated and expensive manuscript size detection equipment. And the location in which an electrode and a sensor can be installed has a limit, and when the location on which the manuscript was put has shifted, there is also a problem of incorrect-detecting.
[0006] It aims at offering cheap manuscript size detection equipment with a certain and simple configuration, without this invention's becoming distinguishable from a white manuscript, even if the field which pushes the manuscript of a pressure plate in view of such many conventional troubles is white, and using the detection device of a complicated configuration.
[0007]
[Means for Solving the Problem] What starts claim 1 among the manuscript size detection equipment of this invention In the manuscript reader which can use the manuscript size of varieties in order to attain the above-mentioned purpose The clear glass which carries a manuscript, the pressure plate which applied the transparence fluorescent paint which emits light in the light of the 2nd wavelength to the white side which presses down a manuscript, A means to irradiate the light of the 1st wavelength allotted to the side other than the above-mentioned clear glass at the above-mentioned pressure plate side, It is characterized by having a means to detect the reflected light of the light of the 2nd wavelength of the above, a means to detect the existence of the manuscript on the above-mentioned clear glass in the amount of the reflected light of the light of the 2nd wavelength of the above, and a means to detect manuscript size with the output of this detection means.
[0008] In the manuscript reader which can use the manuscript size of varieties in order that the thing concerning this claim 2 may attain the above-mentioned purpose The pressure plate which created the bar code display corresponding to the size of the above-mentioned manuscript with the clear glass which carries a manuscript, and the transparence fluorescent paint which emits light in the light of the 2nd wavelength to the nearest to an outside of the fixed form manuscript size of a white side which presses down a manuscript, The means which carries out the scan exposure of the light of the 1st wavelength allotted to the side other than the above-mentioned clear glass at the above-mentioned pressure plate side, It is characterized by having a means to detect the reflected light of the light of the 2nd wavelength of the above, a means to read the above-mentioned bar code display in the reflected light of the light of the 2nd wavelength of the above, and a means to detect manuscript size with the output of the reading means of this bar code display.
[0009] In the manuscript reader which can use the manuscript size of varieties in order that the thing concerning this claim 3 may attain the above-mentioned purpose The clear glass which carries a manuscript, the pressure plate which drew the bar-like display on the white side which presses down a manuscript at regularity or the specific spacing with the transparence fluorescent paint which emits light in the light of the 2nd wavelength, The means which carries out the scan exposure of the light of the 1st wavelength allotted to the side other than the above-mentioned clear glass at the above-mentioned pressure plate side, It is characterized by having a means to detect the above-mentioned manuscript size and a location from the number of bar-like displays after reading the above-mentioned bar-like display from a means to detect the reflected light of

the light of the 2nd wavelength of the above, and a start location until the above-mentioned bar-like display is lost.
[0010]
[Embodiment of the Invention] The gestalt of operation of this invention is explained with reference to a drawing below. Drawing 1 is the important section sectional view of the image reader using the operation gestalt of the manuscript size detection equipment concerning this invention. This image reader consists of pressure plate 4 grade for pressing down the manuscript 3 on the contact glass 2 which consists of clear glass on the body 1 of equipment, and contact glass 2, and those configuration itself is a well-known thing.
[0011] In this equipment, a manuscript 3 is placed on contact glass 2, and is pressed down and fixed to the top face of contact glass 2 by the pressure plate 4. The detector 8 which serves as the light source 5 from a light sensing portion 6 and a filter 7 is formed in the contact glass 2 bottom, and the image of a manuscript 3 is read optically.
[0012] The structure material 9 which pasted up the white sheet on the surface of sponge is attached in the field side which touches the contact glass 2 of a pressure plate 4 so that it can carry out close [of the pressure plate 4] to contact glass 2 on the outside of a manuscript 3. A white sheet is for making into white the image made into the outside of a manuscript 3, and not making a useless image. Although this structure itself is a well-known thing, with this operation gestalt, transparence fluorescent paint (for example, infrared luminescence fluorescent substance of Hitachi Maxell, Ltd.) is applied to the white sheet of the structure material 9 according to the whole surface or regular manuscript size. This transparence fluorescent paint will emit light in the infrared light of different wavelength nu 2, if the infrared light of the specific wavelength nu 1 is irradiated (this description is similar with the fluorescent substance for the Braun tubes of color television). In addition, it is good for transparence fluorescent paint to use for ultraviolet rays, a chemical, etc. what has endurance.
[0013] That is, where a pressure plate 4 is closed, if there is no manuscript 3 there when the infrared light of the 1st wavelength nu 1 is irradiated toward a pressure plate 4 from the light source 5, the infrared light of the 1st wavelength nu 1 will be irradiated by the transparence fluorescent paint applied to the white sheet of the structure material 9, and the infrared light of the 2nd wavelength nu 2 will emit light by this. Moreover, if there is a manuscript 3, since the 1st infrared light cannot reach transparence fluorescent paint, it reflects in respect of a manuscript and the light of the wavelength nu 1 as it is is reflected.
[0014] Since only the infrared light of the 2nd wavelength nu 2 is penetrated and, as for the filter 7 of a detector 8, a detector 8 has sensibility only in this wavelength nu 2 by this, the existence of the manuscript in that location is detectable. If it puts in another way, distinction of the white of a manuscript 3 and the white of a pressure plate can be performed certainly.
[0015] Drawing 2 is the circuit diagram showing the electric configuration of the light source 5 and a detector 8. A power source 10 (5V) is connected with the current-limiting resistance 11 and an infrared-emitting diode 12 (light source 5) in the series circuit of a switch 13. If a switch 13 closes, a current will flow to an infrared-emitting diode 12, and an infrared-emitting diode 12 will emit light in the infrared light of wavelength nu 2. ON/OFF control of the switch 13 is carried out here using the control means of the microcomputer 16 grade with which an image reader is equipped. Moreover, a power source 10 is connected to the series circuit of the resistance 14 for current limiting, and a photo transistor 15 (filter 7). The contact of resistance 14 and a photo transistor 15 is connected to the input of a microcomputer 16. Since the photo

transistor 15 equips the light-receiving side with the filter which penetrates only wavelength nu 1, it is judged that it will be set to ON if the light of the wavelength nu 1 is received, and an input is L (about 0.7 V) and there is no microcomputer 16 of three manuscript on contact glass 2. In addition, the installations of the light source 5 and a detector 8 are well-known manuscript size detection equipment and the completely same location conventionally, and are the approaches as the former that the method which judges manuscript size from the existence of the manuscript in the location is also completely the same.

[0016] Drawing 3 is the conceptual diagram showing the example of manuscript size detection in other operation gestalt equipments of this invention. With this operation gestalt, bar codes 22, 23, and 24 shall be drawn with transparence fluorescent paint on the white sheet of the structure material 9 which made the unit 20 which consists of a detector with which only the light source which emits light, and the 2nd wavelength detect the infrared light of the 1st wavelength movable to right and left among drawing with a guide 21, and attached it in the pressure plate 4, and, thereby, manuscript size shall be detected on it. In addition, bar codes 22, 23, and 24 are expanded and drawn for explanation, and they are taken as a smaller thing so that it may not become the obstacle of reading of an image in fact. Moreover, from the left, the dotted line and alphabetic character in drawing do not show the magnitude of the fixed form manuscript of B5 size, A4 size, B4 size, and A3 size for explanation, and do not draw it in fact. The location of bar codes 22, 23, and 24 is drawn on the nearest to an outside of each size.

[0017] If a unit 20 is moved to right and left among drawing with a guide 21 here, bar codes 22, 23, and 24 are read, all bar codes are read, for example and manuscript size will read only B5 and a bar code 24, B4 etc. can judge manuscript size to be **. Since bar codes 22, 23, and 24 are drawn with transparence fluorescent paint, they do not have influencing the image of the outside of a manuscript. In addition, scanning the light source by the rotation mirror and receiving the reflected light with a detector through a lens as a reading means of bar codes 22, 23, and 24, etc. can be replaced at a Prior art.

[0018] Drawing 4 is the conceptual diagram showing the example of manuscript size detection in the operation gestalt equipment of further others of this invention. Although this operation gestalt is considered as the configuration similar to the operation gestalt equipment of drawing 3 , it is replaced with a bar code and the bars 25 and 26 which are transparence fluorescent paint and were drawn at equal intervals are used for it. The bar 26 in which the starting point is shown is drawn on the white sheet front face of the structure material 9 of a pressure plate 4. In addition, since these bars 25 and 26 are drawn with transparence fluorescent paint, influencing the image of the outside of a manuscript does not have them.

[0019] Then, if a unit 20 is moved to a left end side from a drawing Nakamigi edge like a previous operation gestalt, the bar 26 in which the starting point is shown first will be read, and it will check having started correctly. This makes it possible to detect abnormalities, when reading is started without a unit's 20 breaking down and moving till the starting point. It is not necessary to form the bar 26 in which this starting point is shown about what does not have generating of such abnormalities depending on the reading method of a bar, of course. Next, a unit 20 detects a bar 25 one after another, and reads the number. For example, in this example, if six bars are detected, it can be judged that a manuscript is B5 size.

[0020] In addition, bars do not necessarily need to be regular intervals, are made dense near the fixed form manuscript size, and may enable it to detect a slight gap of a manuscript. Moreover, it can also consider as the configuration which detects correctly the location on which the bar was

densely prepared in the whole and the manuscript was put. Moreover, although he is trying to place a manuscript on left end criteria by a diagram, the location on which the manuscript was put, and the size of a manuscript can be read in the number of bars until it prepares a bar at intervals of 1mm when a manuscript is put on the location of arbitration, and it reads a bar in the edge of an end and detection of a fixed time amount bar is lost, and the number of the bars which detection of a bar started in the degree again and were detected by the other end. In addition, this operation gestalt can also be used for dimension measurement of the body placed on contact glass 2. However, in the case of such an application, there is not necessarily no need of drawing a bar with transparence fluorescent paint.

[0021]

[Effect of the Invention] Since light is emitted in the light of the wavelength by which fluorescent paint was irradiated, and different wavelength even if the manuscript size detection equipment of claim 1 has the white color of a pressure plate, as explained above Since the light reflected as it was and the light generated from the transparence fluorescent paint applied to the pressure plate can be certainly distinguished from a manuscript, the image of the outside of a manuscript can be completely read as white and transparence fluorescent paint is applied to a pressure plate side It is effective in the ability to consider [even if there is completely nothing and the pressure plate is dirty, reading is possible, and] as a cheap thing with a simple configuration, without using the detection device of a complicated configuration for this reason to produce distortion in the reading image of a manuscript.

[0022] Since it enabled it to read the location in the bar code printed to the part which becomes the outside of the manuscript of a pressure plate directly as the manuscript size detection equipment of claim 2 has been explained above, in addition to effectiveness common to the above, a detector is [that what is necessary is just to merely read a bar code] effective in own position control of a detector being unnecessary.

[0023] Since the number of the bars applied to the pressure plate is only read as the manuscript size detection equipment of claim 3 has been explained above In addition to effectiveness common to the above, it is not necessary to make scan speed of a detector regularity. Since it is made to a simple configuration without a control circuit and spacing of a bar, the width of face of a bar, etc. do not need precision, a pressure plate can be constituted cheaply. Spacing of a bar can be made dense, the location of a manuscript can also be read correctly, and it is effective also in abnormalities when the bar in which the starting point or a terminal point is shown is decided and fault occurs in a detector being detectable.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the important section sectional view of the image reader using the operation gestalt of the manuscript size detection equipment concerning this invention.

[Drawing 2] It is the circuit diagram showing the electric configuration of the light source and the detector which are used with the operation gestalt of drawing 1 .

[Drawing 3] It is the conceptual diagram showing the example of manuscript size detection in other operation gestalt equipments of this invention.

[Drawing 4] It is the conceptual diagram showing the example of manuscript size detection in the

operation gestalt equipment of further others of this invention.
[Description of Notations]
1 Body of Equipment
2 Contact Glass
3 Manuscript
4 Pressure Plate
5 Light Source
6 Light Sensing Portion
7 Filter
8 Detector
9 Structure Material Which Pasted Up White Sheet
10 Power Source
11 Current-Limiting Resistance
12 Infrared-emitting Diode
13 Switch
16 Microcomputer
14 Resistance for Current Limiting
15 Photo Transistor
20 Unit
21 Guide
22, 23, 24 Bar code
25 26 Bar

(19)日本国特許庁（ＪＰ）　(12)公開特許公報（A）　(11)特許出願公開番号

特開平11－24185

(43)公開日　平成11年(1999)1月29日

(51)Int.Cl.⁶	識別記号	ＰＩ	
Ｇ０３Ｂ 27/62		Ｇ０３Ｂ 27/62	
Ｇ０１Ｂ 11/02		Ｇ０１Ｂ 11/02	Ｚ
Ｇ０１Ｖ 8/10		Ｇ０１Ｖ 9/04	Ｕ
8/12			Ｈ

審査請求　未請求　請求項の数３　ＦＤ　（全 5 頁）

(21)出願番号　特願平9－187663

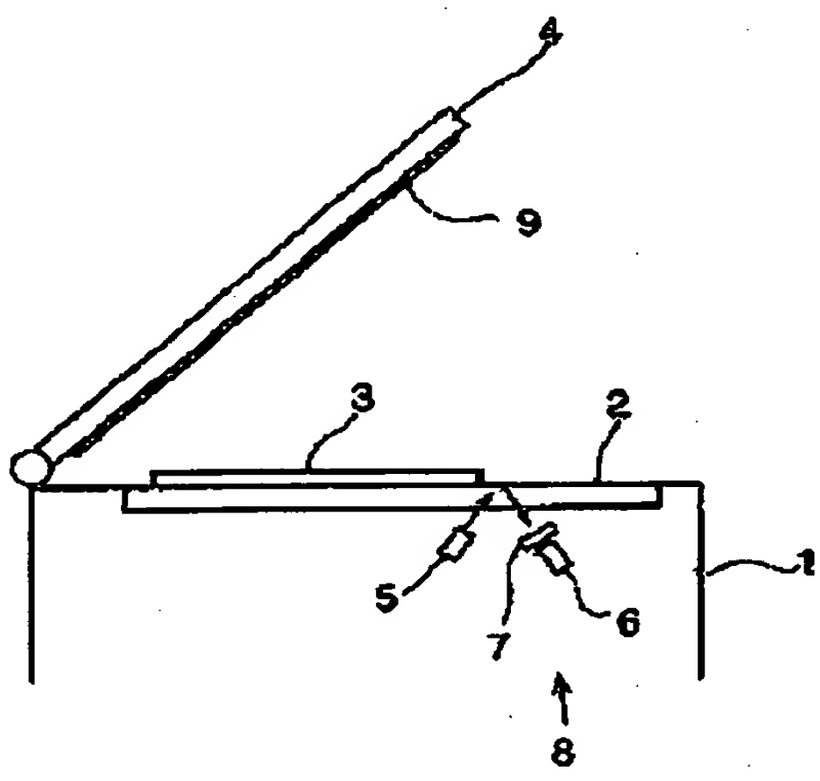
(22)出願日　平成９年(1997)６月27日

(71)出願人　000006747
株式会社リコー
東京都大田区中馬込１丁目３番６号

(72)発明者　高橋　恒秀
東京都大田区中馬込１丁目３番６号　株式会社リコー内

(54)【発明の名称】　原稿サイズ検知装置

(57)【要約】
【課題】　圧板の原稿を押す面が白くても確実かつ簡素な構成で白い原稿と区別でき、安価な原稿サイズ検知装置を提供する。
【解決手段】　圧板４のコンタクトガラス２と接する面に、表面に白色シートを接着した構造材９を取り付け、白色シートに透明蛍光塗料を全面にあるいは原稿サイズに合わせて塗布する。透明蛍光塗料は、特定波長の赤外光を照射すると、第２の波長（波長が異なる）の赤外光を発光する。圧板４を閉じて第１の波長の赤外光を光源５から圧板４に照射すると、原稿３が無ければ白色シートの透明蛍光塗料に第１の波長の赤外光が照射され、第２の波長の赤外光が発光する。原稿３があれば、第１の赤外光は透明蛍光塗料に到達できず、原稿面で反射してそのままの波長の光が反射される。検出器８のフィルター７で第２の波長の赤外光だけを透過すると、光源５からの照射場所での原稿の有無を検出できる。



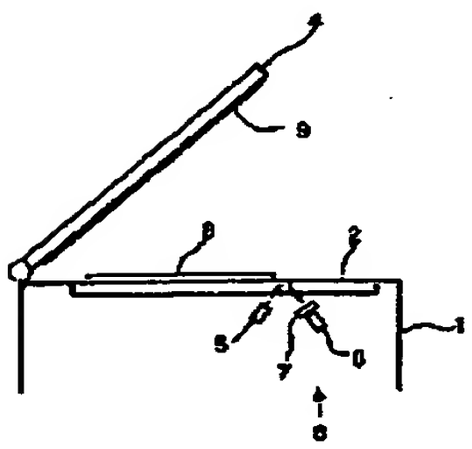
7

１６　マイクロコンピュータ
１４　電流制限用抵抗
１５　フォトトランジスター
２０　ユニット

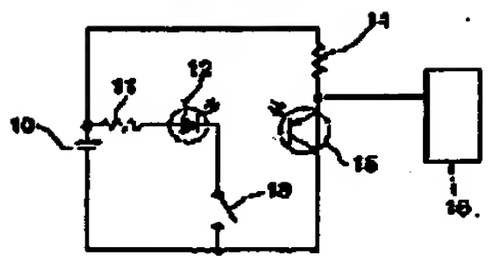
8

＊２１　ガイド
２２．２３、２４　バーコード
２５．２６　バー
＊

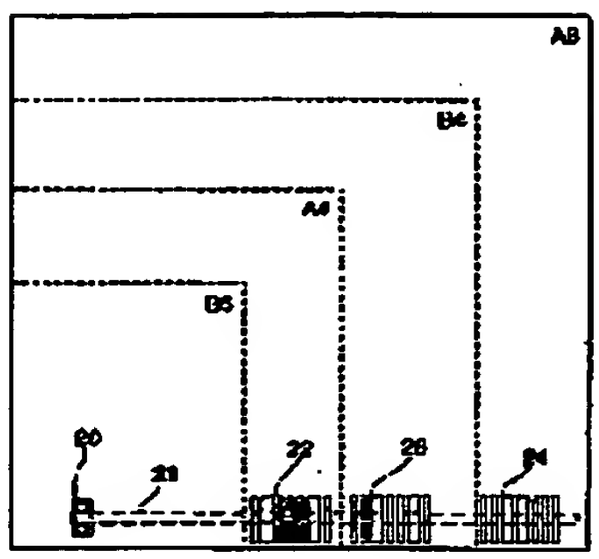
【図１】



【図２】



【図３】



【図４】